Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID21469
Project Name	Smart waste management system for metropolitan cities
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

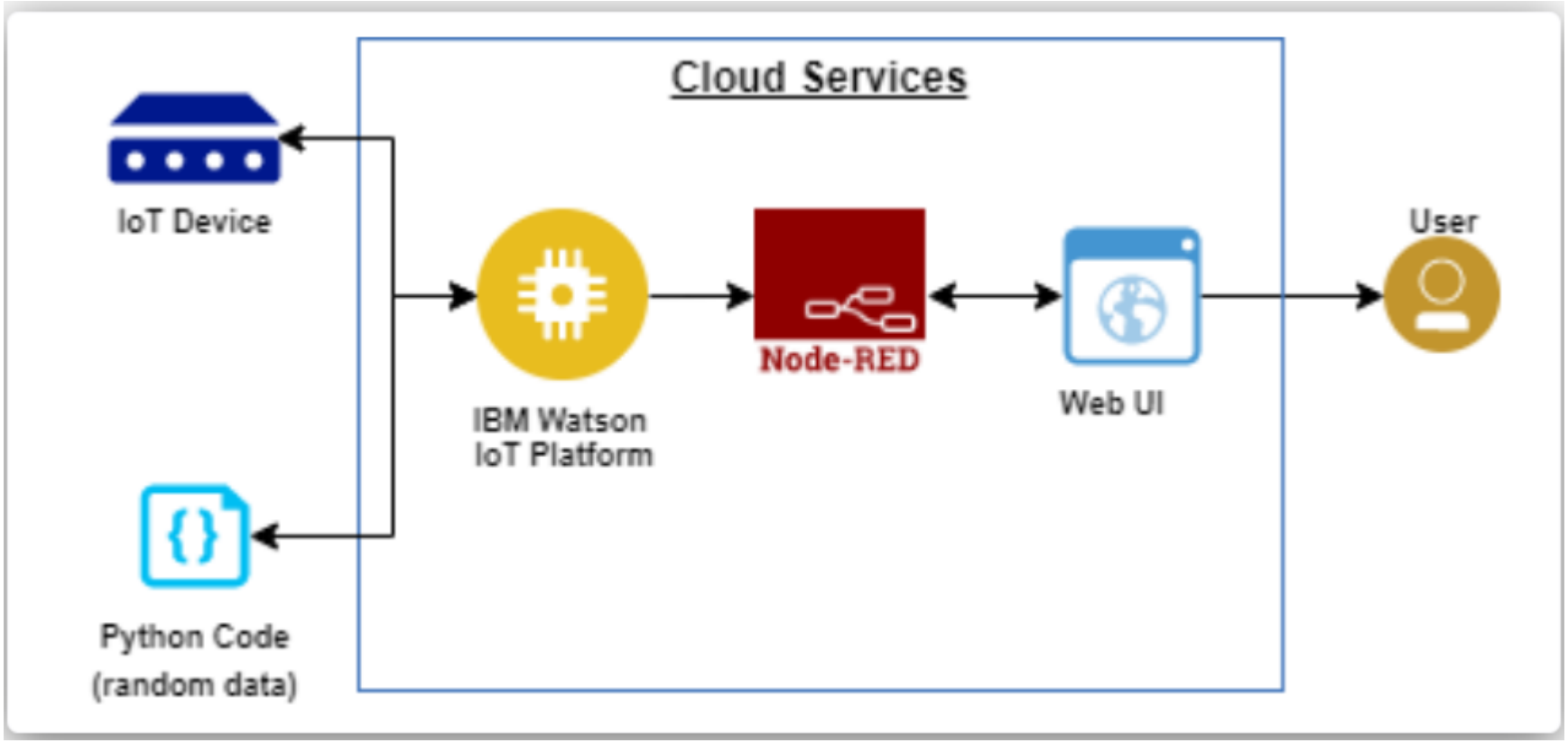

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with Mobile App, Chatbot etc.	Android studio, XML, Java
2.	Application Logic-1	• Get Data from Server • Present Data to User • Put Data to Server	Java
3.	Application Logic-2	FireBase is used to store the user data in an efficient manner.	Firebase - cloud storage

4.	Database	NoSQL Database is used to store the data in the database.	MongoDB
5.	Cloud Database	The Database service is deployed in cloud.	Firebase - cloud storage
6.	File Storage	The mobile App must have at least 10MB of space.	Local filesystem
7.	External API-1	It is used to integrate all the IoT devices.	IBM NodeRed
8.	Machine Learning Model	To forecast the waste to be filled in a particular day based on the streaming data.	python, IBM watson Cloud
	Infrastructure (Server / Cloud)	Application Deployment	Local, IBM watson Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Used to create a Web Server that functions as an API to store the centralised system.	Flask
2.	Security Implementations	Verifying the integrity of the JSON response received form the Server.	SHA-256
3.	Scalable Architecture	MicroService Architecture	Docker
4.	Availability	The Servers deployed in IBM Watson are load balanced by default.	IBM watson Cloud
5.	Performance	The performance is taken care of by IBM cloud watson platform.	IBM watson Cloud